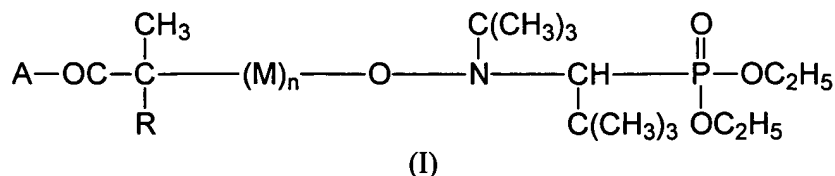


What is claimed is:

1. An alkoxyamine of formula (I):



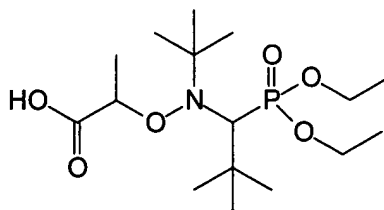
in which A represents a hydroxyl radical; a radical  $\text{MeO}^-$  in which Me represents an alkali metal; an  $\text{H}_4\text{N}^+$ -,  $\text{Bu}_4\text{N}^+$ - or  $\text{Bu}_3\text{HN}^+$ - radical; a chlorine atom; R represents a hydrogen atom or a methyl radical; M is a free-radical-polymerizable vinyl monomer sequence; n is an integer that may be equal to 0.

2 The alkoxyamine of Claim 1 in which M is styrene, substituted styrenes, dienes, acrylic monomers, methacrylic monomers, acrylonitrile, acrylamide and its derivatives, vinylpyrrolidinone or a mixture of at least two abovementioned monomers.

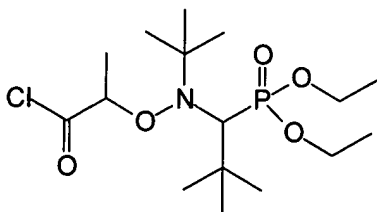
3. The alkoxyamine of Claim 2 wherein the acrylic monomer is selected from the group consisting of acrylic acid or alkyl acrylates and mixtures thereof; and the methacrylic monomer is selected from the group consisting of methacrylic acid or alkyl methacrylates and mixtures thereof.

4. The alkoxyamine of Claim 1 wherein said alkali metal ME is selected from the group consisting of Li, Na, K, and mixtures thereof.

5. The alkoxyamine of Claim 1 wherein said alkoxyamine is 2-[N-tert-Butyl-N-(1-diethoxyphosphoryl-2,2-dimethylpropyl)aminoxy]propionic acid :

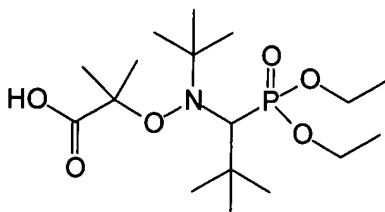


6. The alkoxyamine of Claim 1 wherein said alkoxyamine is 2-[N-tert-Butyl-N-(1-diethoxyphosphoryl-2,2-dimethylpropyl)aminoxy]propionyl chloride:



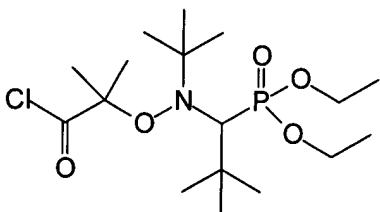
7. The alkoxyamine of Claim 1 wherein said alkoxyamine is 2-Methyl-2-[N-tert-butyl-N-(1-diethoxyphosphoryl-2,2-dimethylpropyl)aminoxy]propionic acid :

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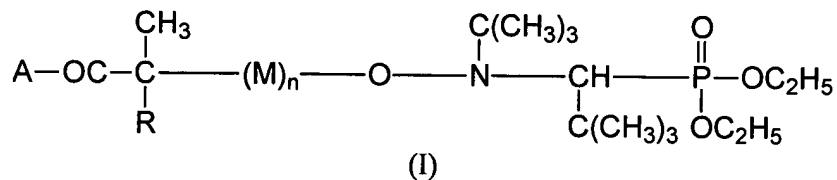
8. The alkoxyamine of Claim 1 wherein said alkoxyamine is 2-Methyl-2-[N-tert-butyl-N-(1-diethoxyphosphoryl-2,2-dimethylpropyl)aminoxy]propionyl chloride:

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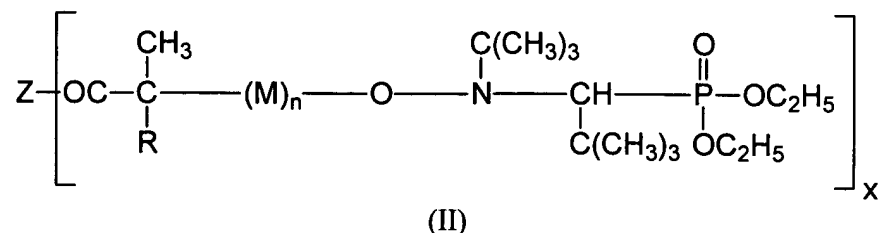
9. A method for preparing a polymerised or non-polymerized mono- or polyalkoxyamine comprising reacting an alkoxyamine of formula (I):

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in which A represents a hydroxyl radical, a radical  $\text{R}^1\text{O}-$  in which  $\text{R}^1$  represents a linear or  
 20 branched alkyl residue containing a number of carbon atoms ranging from 1 to 6; a radical  
 $\text{MeO}-$  in which Me represents an alkali metal; an  $\text{H}_4\text{N}^+$ ,  $\text{Bu}_4\text{N}^+$  or  $\text{Bu}_3\text{HN}^+$  radical; a  
 chlorine atom; R represents a hydrogen atom or a methyl radical; M is a free-radical-

polymerizable vinyl monomer sequence; n is an integer that may be equal to 0; to form a polymerised or nonpolymerized mono- or polyalkoxyamine of the formula (II):



- 5 in which R and n have the same meaning as in formula (I); x is an integer at least equal to 1; Z represents a mono- or polyfunctional structure chosen from the structures given below in a non-limiting manner:  $\text{CH}_2=\text{CH}-\text{CH}_2-\text{O}-$ ,  $\text{CH}_2=\text{CH}-\text{CH}_2-\text{NH}-$ ,  $\text{CH}_3-(\text{OCH}_2\text{CH}_2)_p-\text{O}-$ ,  $-\text{O}-(\text{CH}_2)_q-\text{O}-$ , p and q being integers at least equal to one, or more generally derived from
- 10 compounds such as alcohols, polyols, amines, polyamines, epoxides, polyepoxides, esters, polyesters, amides, polyamides, imines, polyimines, polycarbonates, polyurethanes and silicones.

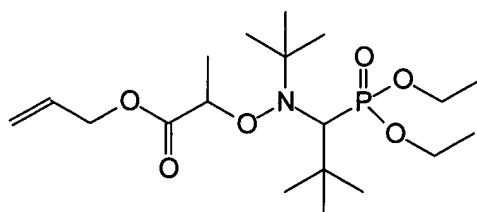
10. The method of Claim 9 wherein said alkali metal ME is selected from the group consisting of Li, Na, K, and mixtures thereof.

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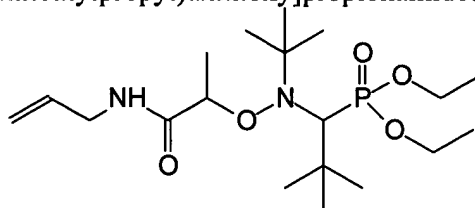
11. The method of claim 9 in which M is styrene, substituted styrenes, dienes, acrylic monomers, methacrylic monomers, acrylonitrile, acrylamide and its derivatives, vinylpyrrolidinone or a mixture of at least two abovementioned monomers.

- 20 12. The method of Claim 11 wherein the acrylic monomer is selected from the group consisting of acrylic acid or alkyl acrylates and mixtures thereof; and the methacrylic monomer is selected from the group consisting of methacrylic acid or alkyl methacrylates and mixtures thereof.

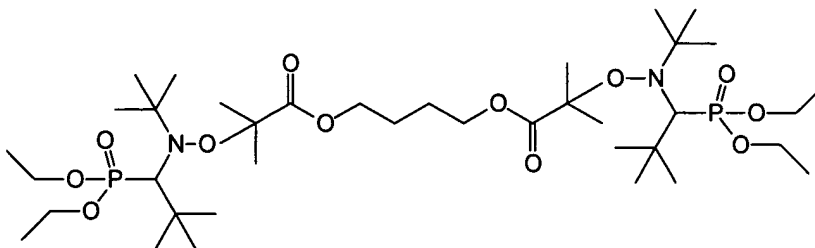
- 25 13. The method of Claim 9 wherein said method forms allyl 2-[N-tert-butyl-N-(1-diethoxyphosphoryl-2,2-dimethylpropyl)aminoxy]propionate:



14. The method of Claim 9 wherein said method forms N-allyl-2-[N-tert-butyl-N-(1-diethoxyphosphoryl-2,2-dimethylpropyl)aminoxy]propionamide:



15. The method of Claim 9 wherein said method forms a dialkoxamine of formula:  
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16. The method of claim 9 wherein said method forms a compound of formula (II) in which  $x=1$ ,  $n=0$ ,  $R=CH_3$  and  $Z=CH_3(OCH_2CH_2)_pO-$ .